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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,098	12/29/2000	Larson J. Isely	9204-9	8845
7590	12/01/2004			EXAMINER HALIM, SAHERA
Don Whitmer Chairman and CEO; Home Director, Inc. C/O Digital Interiors, Inc. 7132 Santa Terese Blvd. San Jose, CA 95139			ART UNIT 2157	PAPER NUMBER DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/751,098	ISELY ET AL.
	Examiner Sahera Halim	Art Unit 2157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 29 December 2000.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-42 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 December 2000 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

1. This Office Action is in response to communication filed on December 29, 2000.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-7, 25 – 31, 8-9, 12-13, 15,20-21, 32-34, 36, 41-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Humpleman et al., US Pat. No. 6,198,479 B1 (hereinafter Hum).

4. Regarding claim 1, Hum teaches a site based dynamic distribution system for distributing an audio signal over a local network for the site, the system comprising (abstract and col. 1, lines 23 – 65 and col. 4, lines 29 – 47):

a network interface that receives digital audio streams and outputs the digital audio streams on a local network for the site using an Internet protocol (IP) address based protocol (col. 5, line 31 – 63 and Fig. 1) and wherein ones of the digital audio streams have different associated identifiers (col. 10, line 45 – 65 and col. 11, line 45 – 65);

a plurality of network attached audio devices configured to receive a selected digital audio stream over the local network for the site based on a designated one of the associated identifiers and to output the received digital audio stream to audio equipment located at the site (Fig. 4, col. 11, line 45 – 65), each of the respective network attached audio devices being associated with a different group of audio equipment (Fig. 7 and col. 13, line 66 – col. 14 line 11).

a user interface configured to receive a user designation of aggregations of the audio equipment located at the site (Fig. 7, col. 13, line 66 – col. 14, line 11 and Fig. 8, col. 15, line 7 – 56); and

a controller coupled to the plurality of network attached audio devices that designates the associated identifiers to be received by respective ones of the plurality of network attached audio devices based on the user designation to provide dynamic zone aggregation of the audio equipment at the site (col. 10, line 45 – col. 11, line 6 and col. 14, line 13 – col. 15, line 6).

5. Regarding claim 2, Hum teaches the system of Claim 1 wherein the site is a residence and wherein ones of the groups of audio equipment are associated with respective rooms of the residence (Fig. 6A, 6C and col. 13, line 66 – col. 14, line 11).

6. Reference to claim 3, Hum teaches the system of Claim 1 wherein the address based protocol comprises a User Datagram Protocol (UDP) (col. 6, lines 10 – 27).

7. As to claim 4, Hum discloses the system of Claim 3 wherein the address based protocol further comprises a Real-time Transport Protocol (RTP) and the network interface comprises an RTP interface (col. 4, lines 29 – 48).
8. Reference to claim 5, Hum teaches the system of Claim 4 wherein the RTP interface outputs the digital audio streams using time-stamped packets using UDP (col. 4, lines 29 – 48).
9. As to claim 6, Hum discloses a system of Claim 1 wherein the plurality of network attached audio devices are configured to provide a salutation protocol to announce their presence to the controller over the local network (Fig. 4A and col. 11, lines 45 – 65).
10. Regarding claim 7, Hum teaches the system of Claim 6 wherein the controller is further configured to assign the associated identifier to be received by respective ones of the plurality of network attached audio devices to the network attached audio devices over the local network using the salutation protocol so as to group ones of the plurality of network attached audio devices (col. 10, lines 45 – col. 11, line 6).
11. Claims 25 – to 31, and claim 41 have similar limitations as to claims 1 – 7, therefore, they are rejected under the same rational.

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12. Regarding claim 8, Hum teaches a site based dynamic distribution system for distributing an audio signal over a local network for the site, the system comprising (abstract and summary):

a plurality of addressable audio devices coupled to the local network and configured to receive a designated digital audio stream over the local network for the site and to output the received digital audio stream to audio equipment located at the site (Fig. 1, 2 and col. 4, line 29 – col. 5, line 63);
a zone manager that defines a plurality of zones for the site, at least one of the zones including at least two of the addressable audio devices and that defines a relationship between a characteristic of the audio signal for a reference audio device and for the at least two of the addressable audio devices in the at least one of the zones (col. 14, line 12 – col. 15, line 56 and Fig. 6 and 7);

an audio interface that receives digital audio streams and outputs the digital audio streams on the local network addressed to selected ones of the audio devices based on the defined zones, the defined relationship between a characteristic of the audio signal for a reference audio device and for the at least two of the addressable audio devices and a control input associated with the characteristic (Fig. 10, 11, col. 17, line 46 – col. 18, line 67, col. 14, line 12 – col. 15, line 56 and Fig. 6 and 7) ; and

a user interface configured to receive a user designation of the control input (Fig. 1, numeral 102, human interface).

13. Reference to claim 9, Hum teaches the system of Claim 8 wherein the characteristic is at least one of a volume, a tone and a balance (col. 18, line 41 – 53).

14. Regarding claim 12, Hum discloses a system of Claim 8 wherein the audio interface further comprises an RTP interface that outputs the digital audio streams using a UDP protocol (col. 4, lines 29 – 48 and col. 6, lines 10 -27).
15. Reference to claim 13, Hum teaches the system of Claim 8 wherein the zone manager further comprises a virtual effect circuit that generates a virtual effect defining a relationship between a characteristic of the audio signal for a reference audio device (col. 7, line 13 – 32) and for ones of the audio devices in a specified one of the plurality of zones and wherein the user interface is further configured to receive a designation of a desired virtual effect for a desired one of the plurality of zones (col. 7, line 34 – col. 8, line 28 and Figs. 6 – 8).
16. Reference to claim 15, Hum discloses the system of Claim 13 wherein the desired virtual effect comprises a plurality of different virtual effects, ones of which are applied to different ones of the audio devices in the desired one of the plurality of zones (col. 7, line 62 – col. 8 line 4 and col. 18, line 41 – 53 and Fig. 6-8).
17. Regarding claim 20, Hum teaches the system of Claim 8 wherein the relationship between a characteristic of the audio signal for a reference audio device and the at least two of the addressable audio devices comprises a relative relationship (col. 17, line 46 – col. 18, line 67 and Fig. 6 - 8).

18. Regarding claim 21, Hum teaches the system of Claim 20 wherein the relative relationship between the reference audio device and one of the at least two of the addressable audio devices is a proportional relationship and wherein the relative relationship between the reference audio device and another of the at least two of the addressable audio devices is a static relationship (col. 17, line 46 – col. 18, line 67 and Fig. 6 - 8).

19. Regarding claim 32, Hum teaches a method for dynamic distribution of an audio signal in a zoned environment, the method comprising (abstract):

defining a plurality of zones in the zoned environment, at least one of the defined zones including at least two addressable audio devices (Fig. 6, Living Room, Office and Mike's room,);

defining a relationship between a characteristic of the audio signal for a reference audio device and for the at least two of the addressable audio devices (Fig. 10, Dads TV and numeral 804, 806 and 706);

distributing the audio signal to the at least two of the addressable audio devices based on the defined relationships and a control input associated with the characteristic (Fig. 6 and 7, and col. 6, line 40- col. 7, line 61 and col.10, line 45 – col. 11, line 6 and col. 19, line 11-55);

receiving an update to the control input from a user (col. 6, line 57 – col. 7, line 7);
and

distributing the audio signal to the at least two of the addressable audio devices based on the defined relationships and the update to the control input (col. 7, line 63 – col. 8, line 4).

20. Reference to claim 33, Hum discloses the method of Claim 32 further comprising receiving the audio signal as a digital audio stream and wherein the steps of distributing the audio signal to the at least two of the addressable audio devices comprise distributing the digital audio stream over a local network of the zoned environment (Fig. 1 and col. 10 line 45 – col. 11, line 65).

21. Reference to claim 34, Hum teaches the method of Claim 33 wherein the step of defining a relationship further comprises generating a virtual effect that defines a relationship between a characteristic of the audio signal for a reference audio device and for ones of then audio devices in a specified one of the plurality of zones and wherein the method further comprises receiving a designation of a desired virtual effect for a desired one of the plurality of zones (col. 7, line 34 – col. 8, line 28 and Figs. 6 – 8).

22. As to claim 36, Hum teaches the method of Claim 34 wherein the desired virtual effect comprises a plurality of different virtual effects, ones of which are applied to different ones of the audio devices in the desired one of the plurality of zones (col. 7, line 62 – col. 8 line 4 and col. 18, line 41 – 53 and Fig. 6-8).

23. Claim 42 have similar limitations as to claim 32, thus it is rejected under same rational.

Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. Claims 10-11, 14,16-17-19, 22-23,35, and 37 - 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hum.

26. Regarding claim 10, Hum does not disclose the system of Claim 8 wherein the characteristic is an equalization specification and wherein the audio devices further comprise an equalizer circuit. However, this use of an equalization specification and circuit is old and well known in the art. It would have been obvious for a person having ordinary skill in the art at the time of the invention to include an equalization specification and circuit to enhance users' lifestyle.

27. As to claim 11, Hum does not explicitly disclose wherein the audio interface and the zone manager are included in an Open Services Gateway initiative (OSGi) gateway configured to couple the local network to an external internet protocol network.

However, Hum discloses an Internet proxy 1104, which is used to interface two networks (col. 20, line 53 – 62 and Fig. 14). Therefore, it would have been obvious for a person having ordinary skill in the art at the time of the invention to replace Hum Internet proxy with OSGi in order to enable a user to control devices remotely (col. 20, line 53 – 62 and Fig. 14).

28. As to claim 14, Hum does not teach wherein the characteristic is an equalization specification and wherein the generated virtual effect specifies different equalizations to ones of the audio devices in the desired one of the plurality of zones. Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Hum. A person having ordinary skill in the art at the time of the invention would have been motivated to modify Hum's systems by adding the different equalizations to increase the system usability and functionality.

29. As to claim 16, Hum does not teach wherein the virtual effect circuit comprises an audio mixer circuit that receives a plurality of designated digital audio streams and provides a mixed audio stream for output by the audio interface to at least one of the audio devices. However, it would have been obvious for a person having ordinary skill in the art at the time of the invention to include a mixed audio stream in Hum in order to enhance the systems functionalities.

30. Regarding claim 22, Hum does not explicitly teach wherein the digital audio streams are MP3. However, MP3 is old and well known in the art. Therefore, it would

have been obvious for a person having ordinary skill in the art at the time of the invention to include MP3 into Hum in order to increase the system's usability.

31. As per claim 23, Hum does not teach wherein the relative relationship between the reference audio device and one of the at least two of the addressable audio devices comprises a maximum level. However, it would have been obvious for one having ordinary skill in the art at the time of the invention to include the above limitations in order to enhance a homeowner's life style and standard of living (col. 1, line 23 – 38).

32. Reference to claims 17 and 37, Hum does not teach the system of Claim 16 wherein the virtual effect comprises a virtual reality effect and wherein at least one of the plurality of designated digital audio streams is associated with a reference position in the site and wherein the audio mixer circuit is configured to provide different mixed audio streams for at least two of the addressable audio devices wherein a characteristic of the at least one of the plurality of designated digital audio streams in the respective mixed audio streams is based on a relative position between associated audio equipment of the at least two of the addressable audio devices and the reference position. However, it would have been obvious for a person having ordinary skill in the art at the time of the invention to include the above features into Hum's system for it improves a homeowner's life style and standard of living.

Regarding claim 18, Hum discloses wherein the user interface is configured to receive a user designation of a desired virtual reality effect as the control input (col. 17, line 46 – col. 18, line 67).

Reference to claim 19, Hum teaches wherein a plurality of designated digital audio streams are associated with different reference positions in the site (col. 17, line 46 – col. 18, line 67 and Fig. 6 - 8).

33. Regarding claim 24, Hum does not teach the system of Claim 8 wherein a plurality of the addressable audio devices are bundled on a shared substrate to provide a preamplifier, the preamplifier having a single interface to the local network shared by the addressable audio devices on the preamplifier and a network switch circuit that routes digital audio system to addressed ones of the addressable audio devices on the preamplifier. Nonetheless, it would have obvious for a person having ordinary skill in the art at the time of the invention to modify the system by Hum by adding the above features in order to enhance the quality of the system.

34. Claims 35 and 38 have similar limitations as to claims 10, 14 and 17, thus they are rejected under the same rational.

35. As to claim 39 Hum teaches receiving a user designation of a desired virtual reality effect as the control input (col. 17, line 46 – col. 18, line 67).

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36. Regarding claim 40, Hum teaches wherein a plurality of designated digital audio streams are associated with different reference positions in the zoned environment (col. 17, line 46 – col. 18, line 67 and Fig. 6 - 8).

Conclusion

37. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 6,762,690 to Diehl et al.

U.S. Pat. No. 6,026,150 to Frank et al.

U.S. Pat. No. 6,546,416 to Humplemen et al.

U.S. Pat. No. 6,665,303 to Saito et al.

U.S. Pat. No. 6,678,740 to Rakib et al.

38. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sahera Halim whose telephone number is (703) 305-8054. The examiner can normally be reached on M-F from 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sahera Halim
Patent Examiner

AU: 2157

November 29, 2004



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